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Production of Excreta-Treating Material for Pet

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(57) [Abstract]

[Purpose]  
This invention aims at offering the manufacturing method of an excreta-treating material which a toilet bowl and a bed, etc. are lined with for pets that are kept indoor or outdoor for a comfortable use.

[Constitution]  
A specific amount of grain husks and oil cakes is mixed with a material having a deodorizing property, such as used coffee grounds, used tea grounds, activated carbon, peat, etc., and after further mixing a small amount of starch as a binder, it is molded with pressure and is dried.

The produced granules is uniformly sprayed with an aqueous solution of a water-soluble cellulose ether (having a high degree of etherification) or of a water-soluble synthetic resin

(polymer electrolyte), and on the other hand, the surface of the produced granules is uniformly coated by spraying starch alone or a mixture of starch, bentonite, and a small amount of a water-adsorbing resin and simultaneously spraying a suitable amount of water with pressure, and then the granules are dried to produce an excreta-treating material.

[Claim(s)]

[Claim 1]

Production of an excreta-treating material for pets characterized in that 20-80% of used coffee grounds, used tea grounds (used as it is or after drying), or activated carbon powder based on dry weight, 10-15% of grain husks and oil cakes, etc., ground into a size of 30-100 meshes, 20-80% of peat as a deodorant, and 2-5% of starch (13% or more of gluten) as a binder are mixed well together, 10-20% of water is further added in response to the whole wet state of the mixture and sufficiently stirred, it is molded into granules having a diameter of  $1\phi$ - $10\phi$  with a pressure of 10-50 kg/cm<sup>2</sup>, the granules are dried to a water content of 10% or less, and then, the surface of the produced granules are coated with an aqueous solution which diluted 1-2% of a water-soluble cellulose ether (1.30 or more of the etherification degree) or a water-soluble synthetic resins (polymer electrolyte) into the volume of 10-20 times, a mixture of 15-20% of starch (13% or more of gluten, 200 meshes) and 0.5-3% of a water-adsorbing resin (300 meshes) is sprayed on the surface of the coated granules and water is simultaneously sprayed in an amount of 15-20% of the total weight in a mist-like state to uniformly adhere the mixture powder to the surface of the granules, and the granules are subsequently dried.

[Claim 2]

Production of an excreta-treating material for pets characterized in that the surface of the granules produced and dried like in Claim 1 are coated with an aqueous solution which diluted 1-2% of a water-soluble synthetic resins (polymer electrolyte) or a water-soluble cellulose ether (1.30 or more of the etherification degree) into the volume of 10-20 times, a mixture of 5-10% of starch (13% or more of gluten), 5-10% (200 meshes) of bentonite, and 0.5-3% (300 meshes) of a water-adsorbing resin is sprayed on the surface of the coated granules and water is simultaneously sprayed in an amount of 20-25% of the total weight in a mist-like state to uniformly adhere the mixture powder to the surface of the granules, and the granules are subsequently dried.

[Detailed Description of the Invention]

[0001]

[Industrial Application]

This invention aims at offering the manufacturing method of an excreta-treating material which a toilet bowl and a bed, etc. are lined with for pets that are kept indoor or outdoor for a comfortable use.

[0002]

[Prior Art]

Conventionally, for treating pets' feces and urine in a regular household, it is commonly known to use well-dried sand, zeolite powder, bentonite granules, finely cut newspaper, etc., suitable grounded wood scrap and dry grass, and moreover, molded pulp having water-adsorbing property and deodorizing property added.

[0003]

[Problem(s) to be Solved by the Invention]

Although the above-mentioned conventional excreta-treating materials for pets were satisfactory in respect of the water-adsorbing property and the deodorization effect, etc., to pets' feces and urine, there were problems that it causes environmental pollution when disposing since the mineral granules are treated as incombustibles, and that it becomes difficult to sell at a low price when pulp is the main component since the processing steps become complicated.

[0004]

In view of the problems of prior art, this invention aims at providing a method of producing a very economical excreta-treating material for pets which not only makes it possible to manufacture and sell at a very low price since the material cost is inexpensive by offering an excreta-treating material for pets mainly consisting of inexpensive grain husks and oil cakes which are conventionally used as a part of feed of livestock or disposed by burning and since the processing steps are simple, and which but also makes it possible to remove and dispose the necessary portion since the portion of the treating material on which a pet excretes feces and urine solidifies while it sufficiently adsorbs moisture and odor of pets' feces and urine and to dispose as kitchen garbage or burnable garbage.

[0005]

[Means for Solving the Problem(s)]

In order to attain the above-mentioned purpose, in this invention, an excreta-treating material for pets is produced by a method characterized in that 20-80% of used coffee grounds, used tea grounds (used as it is or after drying), or activated carbon powder based on dry weight, 10-15% of grain husks and oil cakes, etc., ground into a size of 30-100 meshes, 20-80% of peat as a deodorant, and 2-5% of starch (13% or more of gluten) as a binder are mixed well together, 10-20% of water is further added in response to the whole wet state of the mixture and sufficiently stirred, it is molded into granules having a diameter of  $1\phi$ - $10\phi$  with a pressure of 10-50 kg/cm<sup>2</sup>, the granules are dried to a water content of 10% or less, and then, the surface of the produced granules are coated with an aqueous solution which diluted 1-2% of a water-soluble cellulose ether (1.30 or more of the etherification degree) or a water-soluble synthetic resins (polymer electrolyte) into the volume of 10-20 times, a mixture of 15-20% of starch (13% or more of

gluten, 200 meshes) and 0.5-3% of a water-adsorbing resin (300 meshes) is sprayed on the surface of the coated granules and water is simultaneously sprayed in an amount of 15-20% of the total weight in a mist-like state to uniformly adhere the mixture powder to the surface of the granules, and the granules are subsequently dried.

[0006]

Furthermore, it is also possible to produce of an excreta-treating material for pets by a method characterized in that the surface of the granules produced and dried like in the above are coated with an aqueous solution which diluted 1-2% of a water-soluble synthetic resins (polymer electrolyte) or a water-soluble cellulose ether (1.30 or more of the etherification degree) into the volume of 10-20 times, a mixture of 5-10% of starch (13% or more of gluten), 5-10% (200 meshes) of bentonite, and 0.5-3% (300 meshes) of a water-adsorbing resin is sprayed on the surface of the coated granules and water is simultaneously sprayed in an amount of 20-25% of the total weight in a mist-like state to uniformly adhere the mixture powder to the surface of the granules, and the granules are subsequently dried.

[0007]

[Execution Example(s)]

Next, the process of producing the excreta-treating material for pets in this invention and the excreta-treating material for pets obtained by it are explained.

[0008]

(Execution Example 1)

Hereafter, the composition of this invention is further explained in full detail based on the execution examples.

[0009]

Here, the excreta-treating material mainly consists of 40% of used coffee grounds (dried) based on dry weight, 25% of peat, 15% of canola oil cakes, 4% of starch, and 20% of water are mixed into this and stirred well, it is molded into granules having a diameter of 1φ-10φ with a pressure of 10-50 kg/cm<sup>2</sup>, and the granules are well dried to the whole water content of 5-10%.

[0010]

The reason for containing a large amount of coffee grounds is for instantly decomposing and adsorbing odor of pets' feces and urine, canola oil cakes has a water-adsorbing effect, and peat is excellent in binding property at the time of granulating and in a deodorizing property, and it also improves ignition of the garbage and changes the specific gravity of the granules.

[0011]

The granules dried sufficiently is put into a leveled hollow cylindrical drum (1m of diameter x 2m of length), and the drum is revolved at a speed of 10-15rpm.

As the material of the surface coating for the granules, 2 wt% of a water-soluble cellulose ether (1.30-1.45 of the etherification degree) is first diluted into an aqueous solution having a volume of 15 times, and it was sprayed on the produced granules in the revolving drum.

After checking that the granules are coated uniformly, 15% of starch (13% or more of gluten), 0.5% of a water-adsorbing resin (300 meshes), if necessary, 0.2% of a colorant (pigment), and 0.2% of antiseptics are mixed well, the mixed powder is uniformly sprinkled to the granules in the revolving drum little by little, and from the halfway, water in an amount of about 20% of the total weight is sprayed in a mist-like state by pressurizing to 50 atmospheric pressure while checking the surface coating.

[0012]

After confirming that the powder has adhered uniformly to the produced granules, revolution the cylindrical drum is stopped, the granules are taken out of the drum, and are dried in a drier until the water content becomes 10% or less.

The produced granules have a specific gravity of about 0.5 or more which is heavy as compared with paper sand and wooden sand, and when used in a toilet bowl, it is rare to scatter around.

[0013]

(Execution Example 2)

By using 8% of starch and 8% of bentonite (200 meshes) instead of 15 wt% of starch (13% or more of gluten) among the surface coating materials of the execution example 1, the resulted surface becomes not sticky and it is also finished beautifully when coloring.

In addition, if a pigment which colors with pets' urine is used, used treating material can be exchanged more quickly.

[0014]

[Effect(s) of the Invention]

The excreta-treating material for pets of this invention which comprises the above-mentioned processes has a specific weight and a certain water-adsorbing property, the excreta-treating material solidifies after use and it also demonstrates a strong deodorizing effect at the same time.

In addition, it can also be disposed as kitchen garbage or burnable garbage, and can also be scattered in a garden or a field as a soil improvement material.